

IN THE CLAIMS

Please cancel Claims 21-25 without prejudice or disclaimer.

Claims 1-15 (cancelled)

Claim 16 (withdrawn) A method of manufacturing an intermediate base structure for a flex circuit including the steps of:

- a) providing a flexible base polymer film having first and second surfaces and a layer of copper on the first surface;
- b) providing a metal matrix embossing tool comprising a copper film having a plurality of transverse copper studs integral therewith; placing said tool studs in contact with said second surface;
- c) applying a force to said metal matrix embossing tool so that the studs of the tool punch through the copper coated polymer film, thereby creating a plurality of vias filled with the studs, and attaching the film matrix to the second surface of the polymer film;
- d) electroplating a thin film of copper onto both sides of the copper coated polymer film.

Claim 17 (cancelled)

Claim 18 (previously presented): A method of manufacturing a flex circuit on a flexible base polymer film including the steps of:

- a) superimposing on said film an embossing tool having raised areas comprising a pattern of conductors and vias corresponding to a circuit design, wherein, said raised areas are coated with a thin layer of metal, comprising copper,
- b) applying heat and pressure to simultaneously emboss the film and to transfer said thin metal layer from the embossing tool to the polymer film,
- c) removing the embossing tool,

- d) embossing a pattern corresponding to that of the second surface of a flex circuit, and simultaneously transferring a thin layer of metal into the embossed pattern,
- e) physically removing the embossing tool,
- f) plating a layer of copper to fill the vias and conductor patterns on both sides of the film,
- g) plating a layer of nickel and gold onto the exposed copper patterns, and
- h) applying a solder mask on the surface of the film surrounding the solder ball contact pads.

Claims 19 and 25 (cancelled)